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CYSE 270: Linux System for Cybersecurity

Lab 8 – Shell Scripting

(Total 100 Points)

Task A (Correct script (25 points) + result/output after executing the script (25 points)-  
Conditional Statement

Write a shell script using nano or vi editor (eg, vi scriptname.sh) like below, that performs the following task:

1. Add the Shebang (`#!/bin/bash`) as the first line in your script.
2. Read a number using `read` function
3. Using `if` statement, check if the input number is greater than 10, then print the message “Input number is greater than 10”.
4. If the number is not greater than 10, then print the message, “Input number is not greater than 10”.

```
frederickgr@Fgervacio: ~
File Actions Edit View Help
#!/bin/bash
echo "Enter a number to check"
read number
if [ "$number" -gt 10 ]; then
    echo "Input number is greater than 10"
else
    echo "Input number is not greater than 10"
fi
~
```

```
(frederickgr@Fgervacio)-[~]
$ vi lab8-A.sh
(frederickgr@Fgervacio)-[~]
$ chmod +x lab8-A.sh
(frederickgr@Fgervacio)-[~]
$ ./lab8-A.sh
Enter a number to check
8
Input number is not greater than 10
(frederickgr@Fgervacio)-[~]
$ ./lab8-A.sh
Enter a number to check
18
Input number is greater than 10
```

**Task B (Correct script (25 points) + result/output after executing the script (25 points) - Shell Script to Create a new file**

**Write a shell script using nano or vi editor (eg, nano scriptname.sh) like below, that performs the following task:**

- 1. Add the Shebang (#!/bin/bash) as the first line in your script.**
- 2. Reads the name of the file to check for a filename that exists.**
- 3. Check whether the given input is a directory or regular file.**
- 4. If the input is a directory and exists, then display the message “Directory exists”.**
- 5. If the input is a regular file, then display the message “It is a regular file, and the file exists” and display the contents of the file.**
- 6. If the given input name in step-1 doesn’t exist, then create the new file with the given name in step-1.**

```
File Actions Edit View Help
#!/bin/bash

echo "Enter the name of the file or directory:"
read filename

if [ -d "$filename" ]; then
    echo "Directory exist"
elif [ -f "$filename" ]; then
    echo "It is a regular file, and the file exists"
    echo "— The Content of the file are:"
    cat "$filename"
else
    echo "File does not exist. Creating file ..."
    touch "$filename"
    echo "Frederick Gervacio" > "$filename"
    echo "File Created and name added to the file. here is the content:"
    cat "$filename"
fi
```

```
(frederickgr@Fgervacio)-[~]
└─$ vi Lab8-B.sh

(frederickgr@Fgervacio)-[~]
└─$ ./Lab8-B.sh
Enter the name of the file or directory:
lab8-A.sh
It is a regular file, and the file exists
— The Content of the file are:
#!/bin/bash

echo "Enter a number to check"
read number

if [ "$number" -gt 10 ]; then
    echo "Input number is greater than 10"
else
    echo "Input number is not greater than 10"
fi
```

(Extra credit: 10 points) Add your name to the file (using redirection operator '>') and display the contents for the newly created file.

7. Save and exit the editor and remember to make the script executable using the command `chmod +x scriptname.sh`)

```
(frederickgr@Fgervacio)-[~]
└─$ ./Lab8-B.sh
Enter the name of the file or directory:
anleg.txt
File does not exist. Creating file ...
Frederick Gervacio . anleg.txt
File Created and name added to the file. here is the content:

(frederickgr@Fgervacio)-[~]
└─$ ./Lab8-B.sh
Enter the name of the file or directory:
anleg.txt
It is a regular file, and the file exists
— The Content of the file are:
```

Extra Credit (15 points)- Check Directory

Write a script like below that

1. Reads Two variables- your name and the name of the directory as input.
2. Your script should check for the validity of the given directory name, if the entered filename is a directory, then display its contents
3. If the directory doesn't exist, then print an error message "Sorry, the entered directory name is not a valid directory name."

```
frederickgr@Fgervacio: ~
File Actions Edit View Help
#!/bin/bash

echo "Enter the name:"
read your_name

echo "Hello, $your_name"
echo "Enter the directory name to check:"
read directory_name
if [-d "$directory_name"]; then
    echo "Displaying the contents of the $directory_name are :"
    ls -l "$directory_name"
else
    echo "Sorry, the entered directory name is not a valid directory."
fi
```

4. You need to execute your script and test the following directories to test with your script

- /etc/systemd
- /home
- A directory that does not exist

```
(frederickgr@Fgervacio)-[~]
$ vi extracredit.sh

(frederickgr@Fgervacio)-[~]
$ chmod +x extracredit.sh

(frederickgr@Fgervacio)-[~]
$ ./extracredit.sh
Enter the name:
Frederick
Enter the directory name to check:
/etc/systemd
Hello Frederick the contents of the /etc/systemd is:
journald.conf  network      pstore.conf  system      timesyncd.conf  user.conf
logind.conf    networkd.conf  sleep.conf   system.conf  user

(frederickgr@Fgervacio)-[~]
$ ./extracredit.sh
Enter the name:
Frederick
Enter the directory name to check:
/home
Hello Frederick the contents of the /home is:
cyse_project  Emma  frederickgr  Olivia  Sophia

(frederickgr@Fgervacio)-[~]
$ ./extracredit.sh
Enter the name:
/ghyop
Enter the directory name to check:
/guyhs
Sorry, the entered directory name is not a valid directory name.

(frederickgr@Fgervacio)-[~]
$
```

**Display the contents for the directories you have entered**